White Paper

IFAR White Paper

Grant Number: PW-228243-15

Title of Project: Planning Grant to Enhance IFAR's Catalogue Raisonné Database

Project Directors: Dr. Lisa Duffy-Zeballos and Dr. Sharon Flescher

Date: June 28, 2016

White Paper

Planning Grant to Enhance IFAR's Catalogue Raisonné Database—A Key Humanities Resource

Project Activities and Accomplishments

Catalogues raisonnés are scholarly compilations of an artist's entire body of work or work in a given medium. As the major source of information regarding the provenance, physical description, and exhibition and documentary history of an artwork, they are key art historical research tools. Until IFAR launched its Catalogue Raisonné Database in 2008, there was no comprehensive online bibliographic resource devoted to catalogues raisonnés in all media. In 2015 IFAR was awarded a Planning Grant from NEH to enhance the usefulness and functionality of its unique Database by taking advantage of online interactive digital resources not available at its launch. Our goals were to:

1) explore the feasibility of linking of the catalogues in IFAR's Database to bibliographic aggregators, such as WorldCat, Hathi Trust, Google Books, Internet Archive and others, and
2) create a working prototype for an Ontology of Artists' Relationships, with sample test pages illustrating the relationships for one or two artists expanded through several degrees of related associations.

We have accomplished—and even surpassed—these goals. IFAR's Catalogue Database will soon link to WorldCat, Hathi Trust, Google Books, Internet Archive, Gallica, and other bibliographic aggregators. We also provide links to publishers who have made full text versions of their catalogues raisonnés available online or as downloadable pdfs. Previously, each entry in IFAR's Database displayed only bibliographic information supplemented by notes and comments. Now the Database allows users to view the complete text of those catalogues raisonnés that have been digitized and partial text of most other catalogues raisonnés. There are close to 4,300 published catalogues in IFAR's Database. We were able to establish WorldCat links for *every* published project (individual books and multi-volume series) in IFAR's Database. Through WorldCat, users can search the collections of libraries in their communities and locate the nearest library holding a copy of the book.

We currently are able to offer full-text displays for more than 100 catalogues raisonnés. These include catalogues that are no longer under copyright protection—generally those published before 1923—or catalogues made available by the original publishers. (Museum publishers are increasingly making their catalogues available digitally.) Users can also access partial text and content search features available at Google Books and Hathi Trust for most of the publications listed in the Database. These features are automatically generated from a data feed, so we cannot easily quantify how many books can be accessed in these modes; however, every catalogue should be available in some form—full text display, partial text or search only. These external links are in place and have been tested in a soft launch. IFAR plans to implement the external links portion of the project at the same time we publicize its availability.

Because we were adding functionality to an existing website, the placement of the buttons to the links was a challenge. Ensuring that the pop-up links were easily visible and easy to understand yet visually attractive and well incorporated into the existing Database design involved many iterations and adjustments. In our proposal we said only that we would investigate linking and this is the most important example of how we have exceeded our goals. These features—the ability to explore the texts of catalogues raisonnés and locate the nearest library holding a copy of the book—will *greatly* enhance the usefulness of IFAR's Database.

The scope and functionality of the prototype Ontology of Artists' Relationships greatly expanded in the course of our Planning Grant. While our initial proposal set out to create a working prototype demonstrating the relationships of one or two selected artists, we succeeded in creating a fully-functioning (albeit highly incomplete) Ontology visualization tool for *all* artists in the Getty Union List of Artists Names (ULAN).

In designing the prototype, rather than illustrate relationships for only one or two artists as we had originally proposed, IFAR expanded the ontological trees for three artists, each intentionally representing a distinct art historical period. They were: American Abstract Expressionist Jackson Pollock (1912-1956), English Romantic landscape painter J.M.W. Turner (1775-1851) and Italian Baroque painter Annibale Carracci (1560-1609).

Using the Getty ULAN open source data set as our starting point, the co-directors devised the following relationship criteria for the Ontology prototype: list only artists (no patrons, non-artist family members, etc) and include only personal (not corporate) associations. The relationship categories include: all known familial relationships between artists (parent, spouse, sibling, cousin, aunt/uncle, niece/nephew, grandparent, etc.), student of, teacher of, friend of, associate of, collaborator, worked with. Our original intention was to expand these connections though several degrees of related associations to demonstrate how a fully-realized ontology would be navigated and would enrich IFAR's Catalogue Raisonné Database. Since the ULAN is delivered as Linked Open Data, however, we found that we were unable to limit the data set to our prototype artists, or even, significantly, to only those artists who were in (or related to) artists listed in IFAR's Catalogue Raisonné Database. The implications of this are profound and daunting: IFAR's prototype Ontology morphed into functioning visualization tool for *all* of the artists in the Getty ULAN (more than 180,000 artists). As such, the prototype Ontology functions as a self-contained universe, in which artists' relationships can be explored ad infinitum.

At the same time, while the ULAN contains a large number of artists, we discovered that most of the ULAN entries include very few, if any, relationships. Our intention, as stated in our NEH proposal, was to expand our test artists' relationships through additional research. But, as we discovered during the development of the prototype, supplementing the artists' relationships in the Getty ULAN required significantly more work by senior art historians than we had anticipated.

To supplement the gaps in the ULAN's information on specific artists' connections, IFAR engaged a senior level art historian/curator to consult a variety of bibliographic source materials, which varied depending on the artist and art historical period in question. Standard art historical

references, such as *Oxford Dictionary of Art* and the *Benezit Dictionary of Artists,* provided only some of the key relationships. To discover and verify additional relationships, the art historian had to consult specialized references in a variety of languages, and this was just for three test artists. Some of the additional sources we consulted included: *Allgemeines Kunstler-Lexicon*, *Benezit Dictionary of British Graphic Artists and Illustrators*, *Dizionario enciclopedico Bolaffi dei pittori e degli incisori italiani*, *Benezit Dictionary of British Graphic Artists and Illustrators*, *Oxford Dictionary of America Art and Artists*, *Dictionary of British Watercolor Artists Up to 1920*, *The Royal Academy of Arts: A Complete Dictionary of Contributors and their Work... 1769 to 1904*, as well as biographies, obituaries, monographs, and the catalogues raisonnés of artists connected to the artist in question. The authority sources for all new artist relationships identified by IFAR were then recorded in an internal spreadsheet, so that references could be cited and verified as needed.

In some cases, in expanding the relationships for our three test artists, IFAR included artists who did not have name identities in the Getty ULAN. In these cases, IFAR assigned a unique IFAR identifier number to that artist and manually established both the positive and inverse relationships between the primary artist and the related artist (i.e. Artist A was student of Artist B, so Artist B was teacher of Artist A). While, for the purpose of the prototype, IFAR *manually* created two-way relationships, should we implement the Ontology, IFAR's web developers would write a program to automatically create the inverse relationships.

Expanding the members of an artist's circle proved similarly challenging and required the skills of our senior level art historian who possessed a broad knowledge of art history and foreign language ability to implement and verify the connections. (This, too, has implications for future implementation.) Finally, one of the co-directors reviewed and vetted all of the newly established relationships for accuracy and relevance.

IFAR looked into the possibility of making IFAR's data on artist relationships available to web developers as Linked Open Data by means of an API. Although our web developers have formatted IFAR's unique data as LOD, it is currently merged with the ULAN LOD. Should the project advance to the implementation stage, IFAR will investigate how to expose our tagged triples for the Ontology, either with or without the ULAN data set, on our site via API or other LOD delivery mechanism.

In our proposal, we said we would investigate incorporating digital images of the prototype artists in the Ontology. To this end, IFAR's Ontology developers wrote a code to generate a search of the artist's name to identify a photo associated with that name on Wikipedia; image recognition software then identified the artist's face within the photo. This function allowed us to display images for not only the three prototype artists and their connections, but *all* artists included in the Getty ULAN for whom images are available on Wikipedia (about 30% of ULAN artists). Artists' relationships are easier to understand and more visually engaging with images than with names alone, and displaying the artists' images gave our test audience a better sense of how a complete ontology would display.

We encountered some problems with the facial recognition software. Occasionally the program pulled up a detail from an artwork by the artist, or details from the costume or background from

the artist's image, rather than the artist himself. At other times, Wikipedia incorrectly displayed the image of a different individual listed in Wikipedia who shared the same name with the artist. Consequently, the art historian and one of the co-directors had to review the displayed Wikipedia images for the prototype artists and their connections. When errors were found, IFAR substituted a new image of the artist. Should IFAR proceed with its Ontology project, we would need to review the accuracy of Wikipedia images for the thousands of artists in the Ontology. Moreover, as Wikipedia periodically updates their images and interface, IFAR would need to review artist images on an ongoing basis, a daunting prospect.

When images for the three prototype artists and their connections were not available through Wikipedia, we created a separate file with artist images researched and downloaded from other sources. These approximately 150 images were then tagged with the ULAN ID number (or if the artist was not in the ULAN, with a unique IFAR identifier number) to correspond with the artist entry in our Database. Providing these additional digital images gave us a sense of the amount of time and staffing that would be required to search for, download, and store images for the thousands of artists included in the Ontology.

At the conclusion of the Planning Grant project, the project co-directors, in collaboration with the Ontology designer, wrote, distributed and evaluated a 23-question user survey. Its results are described below.

Evaluation

> *"These links are GREAT!! It was always cumbersome—not difficult, just cumbersome— to copy/paste or retype the CR name/author into WorldCat to locate a library holding. It's a really great feature to know right off the bat if a full-text version is available…I think all full-text versions should be linked—each resource has its pros and cons, so it's hard to say which I like the best."*

To evaluate the project, the co-directors formulated a 23-question survey via SurveyMonkey, and distributed it to the entire Catalogue Raisonné Scholars Association listerv as well as selected members of the Appraisers Association of America, academics, and staff at other non-profit organizations. The results were compiled by panOpticon, our Ontology designers, and the project co-directors. Responses for both the links to digital aggregators and the Ontology of Artists' Relationships were generally very positive. Some were quite complimentary.

Respondents found the links to digital aggregators the most useful enhancement to IFAR's Database. Ninety-five percent of users said the links to full-text sources were either "useful" or "very useful"; 79% of respondents said the links to partial-text sources "useful" or "very useful"; and 100% found the links to WorldCat "useful" or "very useful." Fifty-five percent of the respondents reported that they would use the links either "frequently" or "often" and 40% said they would use them occasionally. The vast majority, 90%, were "likely" or "very likely" to recommend the links.

In terms of critical comments, one respondent would have preferred to be offered one quality resource to link to, rather than sorting through three choices, the opposite of the comment above.

Others reported some difficulty mousing over the link icons, while others found the links difficult to spot at the bottom of the book page, where our existing Catalogue Raisonné Database design requires them to be.

> *"It really works great. I loved the links to WorldCat and also Google when possible. My only comment was that the buttons sometimes seemed to have very small link points, but that's a dorky web design thing. I really got sucked into the ontology big time. Very fun. Excellent example of digital humanities."*
>
> Dr. Jeffrey Taylor, Assistant Professor of Arts Management at SUNY, Purchase

> *"The site looks great! I really like the ontology feature."*
>
> Vincenzo Rutigliano, Supervising Librarian of the Art & Architecture Collection of New York Public Library

The responses for the prototype Ontology of Artists' Relationships were also very positive overall. Ninety percent of the respondents reported that they learned about artists' relationships of which they were previously unaware, while 60% reported that they learned about a new catalogue raisonné project from using the Ontology. In terms of ease of use, 89% of users found the Ontology instructions "clear" or "very clear"; 84% said the Ontology was "easy" or "very easy" to navigate.

Virtually all of the respondents (95%) believed that the Ontology would be most useful to students, followed by academics (75%), as well as collectors (70%) and curators (55%). Thirty-five percent would use the Ontology "frequently" or "often", while over half (55%) would use it "occasionally." Eighty-five percent of respondents said they were either "likely" or "extremely likely" to recommend the Ontology to others.

Conclusion

As a result of the NEH Planning Grant, IFAR has overseen a major enhancement to its already highly successful Catalogue Raisonné Database. Once IFAR activates the links to the bibliographic aggregators—which will be soon—users will have immediate access to full and partially digitized books. They will also be able to locate the nearest library holding print editions of catalogues in IFAR's Database.

Regarding the Ontology project, this Planning Grant showed the considerable costs, time and staffing requirements that would be necessary to implement, continually update and maintain the resource. IFAR needs to reflect further before making the decision as to whether to proceed.